

CLAIMS:

What is claimed is:

1. 1. An apparatus for loading a mold cavity with particulate moldable material comprising:
 2. a moveable table member;
 3. a target area defined on said table member, said target area comprising an opening in said table member;
 4. material delivery means for delivering a measured quantity of the particulate moldable material onto said target area;
 5. a door positioned under said target area;
 6. means for moving said moveable table member between a first position where said target area is loaded and a second position where said target area is positioned over the mold cavity; and
 7. means for selectively opening said door to release the particulate moldable material into the mold cavity.
1. 2. The apparatus of claim 1 wherein said material delivery means comprises a hopper device driven in reciprocating fashion across said target area.

- 1 3. The apparatus of claim 2 wherein said hopper device comprises a tapering
- 2 enclosure having an opening at the bottom thereof and defining an interior
- 3 space, and further comprising a screen positioned in said interior space for
- 4 sifting the particulate moldable material loaded therein.

- 1 4. The apparatus of claim 3 wherein said hopper device further comprises a
- 2 rotating blade device positioned within said enclosure and further
- 3 comprises a screen positioned above said rotating blade device and
- 4 arranged such that it is vibrated by said rotating blade device.

- 1 5. The apparatus of claim 4 further comprising means for driving said rotating
- 2 blade device in response to said reciprocating motion of said hopper device
- 3 and means for maintaining the direction of rotation of said rotating blade
- 4 device during reversal in the direction of travel of said hopper device.

1 6. An apparatus for compression molding items from particulate moldable
2 material comprising:
3 a compression mold having a mold core and a mold cavity, wherein said
4 mold cavity has a selectively moveable ring positioned around the
5 periphery thereof;
6 a moveable table member positioned proximate said compression mold;
7 a target area defined on said table member, said target area comprising an
8 opening in said table member;
9 material delivery means for delivering a measured quantity of the
10 particulate moldable material onto said target area;
11 a door positioned under said target area for selectively releasing the
12 particulate moldable material into the mold cavity; and
13 means for moving said table member to place said target area over said
14 mold cavity; and
15 means for selectively opening said door and thereby releasing said
16 particulate moldable material into said mold cavity.

1 7. The apparatus of claim 6 wherein said material delivery means comprises a
2 hopper device driven in reciprocating fashion across said target area.

- 1 8. The apparatus of claim 7 wherein said hopper device comprises a tapering
- 2 enclosure having an opening at the bottom thereof and defining an interior
- 3 space, and further comprising a screen positioned in said interior space for
- 4 sifting the particulate moldable material loaded therein.

- 1 9. The apparatus of claim 8 wherein said hopper device further comprises a
- 2 rotating blade device positioned within said enclosure and further
- 3 comprises a screen positioned above said rotating blade device and
- 4 arranged such that it is vibrated by said rotating blade device.

- 1 10. The apparatus of claim 9 further comprising means for driving said rotating
- 2 blade device in response to said reciprocating motion of said hopper device
- 3 and means for maintaining the direction of rotation of said rotating blade
- 4 device during reversal in the direction of travel of said hopper device.

1 11. A method of loading a mold cavity of a compression mold with particulate
2 moldable material comprising:
3 positioning a moveable table member proximate the compression mold,
4 wherein said table member has defined thereon:
5 a target area comprising an opening in said table member;
6 material delivery means for delivering a measured quantity of
7 the particulate moldable material as a layer onto said
8 target area; and
9 a door positioned under said target area for selectively
10 releasing the particulate moldable material into the
11 mold cavity;
12 loading said target area from said material delivery means;
13 selectively moving said table member to place said loaded target area over
14 the mold cavity; and
15 opening said door to release said particulate moldable material into the
16 mold cavity to create a layer of particulate moldable material therein.

12. The method of claim 11 wherein said material delivery means comprises a hopper device driven in reciprocating fashion across said target area.

13. The method of claim 12 wherein said hopper device comprises a tapering enclosure having an opening at the bottom thereof and defining an interior space, and further comprising a screen positioned in said interior space for sifting the particulate moldable material loaded therein.

14. The method of claim 13 wherein said hopper device further comprises a rotating blade device positioned within said enclosure and further comprises a screen positioned above said rotating blade device and arranged such that it is vibrated by said rotating blade device.

15. The method of claim 14 further comprising driving said rotating blade device in response to said reciprocating motion of said hopper device and maintaining the direction of rotation of said rotating blade device during reversal in the direction of travel of said hopper device.

- 1 16. A method of compression molding a molded part with particulate moldable
2 material comprising:
3 providing a mold cavity having a peripheral rim defined thereon, with a
4 moveable ring member, wherein said ring member surrounds said
5 rim of said mold cavity;
6 positioning a moveable table member proximate said mold cavity, wherein
7 said table member has defined thereon:
8 a target area comprising an opening in said table member;
9 material delivery means for delivering a measured quantity of
10 the particulate moldable material as a layer onto said
11 target area; and
12 a door positioned under said target area for selectively
13 releasing the particulate moldable material into said
14 mold cavity;
15 layering the particulate moldable material onto said target area on said table
16 member from said material delivery means;
17 selectively moving said table member to place said target area over said
18 mold cavity;

19 opening said door to release the moldable material into said mold cavity to
20 thereby create a layer of particulate moldable material therein;
21 forcing a mold core against said mold cavity and said moldable material
22 placed therein, thereby compressing said moldable material, and
23 heating said moldable material to form a molded part; and
24 moving said mold core and said ring member to expose the molded part.

1 17. The method of claim 16 wherein said material delivery means comprises a
2 hopper device driven in reciprocating fashion across said target area.

1 18. The method of claim 17 wherein said hopper device comprises a tapering
2 enclosure having an opening at the bottom thereof and defining an interior
3 space, and further comprising a screen positioned in said interior space for
4 sifting the particulate moldable material loaded therein.

1 19. The method of claim 18 wherein said hopper device further comprises a
2 rotating blade device positioned within said enclosure and further
3 comprises a screen positioned above said rotating blade device and
4 arranged such that it is vibrated by said rotating blade device.

- 1 20. The method of claim 19 further comprising driving said rotating blade
2 device in response to said reciprocating motion of said hopper device and
3 maintaining the direction of rotation of said rotating blade device during
4 reversal in the direction of travel of said hopper device.